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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,642	10/22/2003	Masanori Minamio	60188-686	4046

7590 11/12/2004
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EXAMINER

CLARK, JASMINE JHIHAN B

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,642

Applicant(s)

MINAMIO ET AL.

Examiner

Jasmine J Clark

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 18-23 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-9 is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Claims 18-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group II, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 08/24/04.
2. It is suggested that Applicants cancel claims 18-22 in response to this Office action.

Claim Rejections - 35 USC § 112

3. Claims 1-4, and 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation "wherein there exists no member that functions as a suspension lead during plastic encapsulation" is not clear. Do the applicants mean "no member" of the leadframe?

In claim 10, the recitation "wherein the semiconductor device is provided with no member that extends from die pad and that has its end exposed at a surface of the plastic encapsulant" is not clear. Do the applicants mean "...no member of the die pad"? and what is it that has its end exposed at a surface of the plastic encapsulant?

Claim Rejections - 35 USC § 102

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4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 10-17 as best understood are rejected under 35 U.S.C. 102(e) as being anticipated by Wan et al. (US 6,777,788 B1).

Wan shows a structure of a semiconductor device comprising a die pad 522; a semiconductor chip 530 mounted on the die pad 522; land portions each detached from the die pad and each having an upper surface serving as a bonding pad to be connected with a metal wiring 531 and a lowermost part serving as an external terminal; a plurality of connecting members through which portion of the semiconductor chip 530 are connected to the bond pads; and a plastic encapsulant 540 (also see column 1, line 55) for encapsulating the semiconductor chip, the connecting members, the land portions and the die pad, with the lowermost parts of the land portions and at least a part of the bottom surface of the die pad exposed.

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Concerning the limitations of claim 11, 12, and 14-17, for example, in claim 11, wherein the external terminals are substantially identical un shape in plan view and are arranged in a lattice pattern at the bottom surface of the plastic encapsulant, please see Figs 4-5.

Allowable Subject Matter

5. Claims 1-4 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The applied reference teaches including a plurality of leads each having land portions and connections, but fails to devoid a lower part of each of the connections as claimed in claim 1

6. Claims 5-9 are allowed.

The following is an examiner's statement of reasons for allowance: see paragraph 5 above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

References Cited

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7. Ooigawa et al. (US 6,181,000 B1), Ichinose (US 2002/0014683 A1), Blendenburg et al. (US 5,491,364), Kierse (US 5,541,446) and Yamasaki et al. (US 5,621,190) shows a structure of a semiconductor device comprising a plurality of land portions and connections. Brown (US 4,400,714) and Chung et al. (US 6,627,976 B1) shows a structure of a leadframe comprising an outer frame with a plurality of sides surrounding a region of the leadframe. Lee (US 2004/0159918 A1), Fukaya (US 5,969,411) and Hamsehdoost et al. (US 5,430,331) shows a structure of a semiconductor device comprising a leadframe, a die pad that comprises connections and that is devoid of its lower part.

Telephone Inquiry Contacts

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jasmine J Clark whose telephone number is (571) 272-1726. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jjbc/11/09/04

JASMINE CLARK
PRIMARY EXAMINER

A handwritten signature in cursive script, appearing to read "Jasmine Clark", written in black ink.